

PRODUCTION OF WATER REMOVING EQUIPMENT

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Abstract of JP2009413

PURPOSE: To improve efficiency of dehumidification by joining surfaces of a proton-conductive solid with porous electrodes after these surfaces are pretreated with dry etching. **CONSTITUTION:** A cation exchange film having perfluorosulfon groups, e.g., is used as a proton-conductive solid. Its surfaces are treated with sputter etching and then joined with porous electrodes such as porous platinum films. A series of reactions such as decomposition, emission and removal of moisture in a vessel 1 occur at both interfaces between the conductive solid 5 and the porous electrodes 4, 6. The adhesion degrees of these interfaces are improved by the dry etching treatment, so that the interfacial conditions are stabilized and the resistances through these interfaces are lowered. Therefore, a current due to a DC voltage applied between both electrodes increases and the aforementioned reactions are made active, resulting in an increase of dehumidification efficiency.

